OPNAV INSTRUCTION 5100.24A

From: Chief of Naval Operations
To: All Ships and Stations (less Marine Corps Field addresses not having Navy personnel attached)

Subj: NAVY SYSTEM SAFETY PROGRAM

Ref: (a) DODINST 5000.36 of 14 Apr 86 (NOTAL)
(b) SECNAVINST 5100.10E (NOTAL)
(c) MIL-STD-882B, System Safety Program Requirements
(d) OPNAVINST 3960.10B of 22 Aug 83
(e) OPNAVINST 5100.8G of 2 Jul 86

1. Purpose. To provide policy and requirements for Navy System Safety Programs.

2. Cancellation. OPNAVINST 5100.24.

3. Objective. The objective of a system safety program is to improve operational readiness and reduce costs by using system safety design and analysis techniques.

4. Background. The Department of Defense (DOD) and the Department of the Navy (DON) have directed significant attention toward maintaining operational readiness through early recognition of hazards to prevent the loss or degradation of systems. References (a) and (b) emphasize both DOD's and DON's commitment toward achieving this goal through proper application of system safety engineering and management. System safety program requirements are detailed in MIL-STD-882B, "System Safety Program Requirements."

5. Applicability. System safety engineering and management as defined in this instruction are applicable to all Navy systems sub-systems, equipments and facilities together with modifications to these systems, sub-systems, equipments and facilities.

6. Navy System Safety Policy. System safety engineering and management controls shall be applied to all ACAT I and ACAT II programs throughout the system's or facility's life cycle. Program sponsors, acquisition commands and their field activities shall selectively apply these controls to all other acquisitions and military construction (MILCON) projects, system maintenance programs, logistics training and operations and research programs leading to new systems acquisitions. Engineering and management controls shall be applied through suitable tailoring of MIL-STD-882B to ensure that:

a. Primary emphasis is placed on the identification, evaluation and elimination/control of hazards prior to system production/construction and deployment.

b. System safety risks requirements, criteria and constraints and needed program resources are addressed by the originators of each operational requirement and summarized in the Decision Coordinating/System Concept Paper.

c. Requests for proposal and invitations for bid on systems and facilities acquisitions and contracts specify selected portions of MIL-STD-882B. As a minimum, they must require:

(1) Preliminary Hazard Analyses during system concept exploration (planning phase for facilities acquisition) to define the scope and level of detail of the required system safety effort. (MIL-STD-882B Task 202)

(2) Detailed description of system safety tasks and schedule by event(s) for completion of hazard analysis, (Analysis results must be available for review before the appropriate system review milestones.) (MIL-STD-882B, Task 101)

(3) Hazard tracking and closeout (resolution) plan. (MIL-STD-882B, Task 105)

(4) System safety personnel qualifications. (MIL-STD-882B,Task 108)

(5) Evaluation of mishap risk being assumed prior to system test or operation or at the conclusion of the contract and prior to Initial Operational Capability (IOC). (MIL-STD-882B, Task 209)

d. Contractual system safety provisions are reviewed for currency prior to the start of each succeeding phase.

e. Management and engineering personnel review system safety requirements, criteria and constraints when documenting engineering changes, waivers, deviations, alterations and modifications to ensure that system safety considerations are not degraded.

7. Responsibilities

a. Coordination. The Assistant for Safety Matters (OP-09F), (reference (e)) will advise and assist the CNO in reviewing system safety program policies, objectives, and effectiveness. OP-09F will advise and assist the acquisition commands in developing procedural guides and in preparing and implementing system safety directives. OP-09F will be a member of all system safety policy formulation groups.

b. Technical Management. The acquisition commands, i.e., NAVSYSCOMS, are responsible for the system safety programs relating to systems acquisition. This effort includes the responsibility for the technical aspects (management and engineering) of the system safety program as it relates to the acquisition of systems, sub-systems, materials, equipment and facilities.

c. Implementation. Because safety is an inherent responsibility of command, all aspects of the Navy System Safety Program shall be implemented through the chain of command. Commanders are responsible for ensuring that their commanders, commanding officers, directors, officers in charge and supervisors at their activities:

(1) Assign system safety responsibilities to only qualified personnel.

(2) Ensure the application of appropriate safety and occupational health standards and system safety engineering principles in the acquisition and life cycle support of DOD weapon systems, equipment, and facilities.

(3) Ensure that system safety is adequately reviewed before Defense Systems Acquisition Review Council (DSARC), when applicable, and during other Acquisition Review Council meetings.

(4) Establish and support system safety engineering research projects.

(5) Acquisition commands shall:

(a) Establish a command point of contact for system safety and assign a trained system safety manager for each applicable system.

(b) Establish and maintain a capability to conduct system safety programs by:

(1) Defining System Safety Program responsibilities and objectives and command guidance and policy.

(2) Ensuring that there is a formalized closed loop process for resolving hazards in a timely manner through contractor and Navy program management involvement.

(3) Ensuring organizational structures and resources are adequate to perform required system safety program actions.

(4) Designating trained system safety personnel within each acquisition project office to act as focal points for system safety efforts.

(5) Ensuring that key system safety personnel are properly trained and certified.

(6) Periodically evaluating contractors system safety performance.

(7) Establishing system safety contracting procedures which include, when appropriate, contractor incentives/penalties.

(c) Establish and maintain system safety programs including yearly reviews for each system or facility acquisition for which the command has responsibility.

(d) Formally integrate system safety objectives and milestones into the total acquisition program consistent with other engineering and management milestones by:

(1) Assessing safety risks at program initiation for all programs to define safe operation limits and the scope and level of detail of system safety program requirements.

(2) Including the system safety program requirements and criteria in directives, planning and acquisition documentation, requests for proposals, specifications and statements of work.

(3) Ensuring laboratories document safety criteria, critical items and hazards identified during their efforts. These criteria are to become a part of the project when it transitions to the development phase. Laboratories should keep the safety community aware of their progress in development of devices, equipment and materials that enhance safety.

(4) Ensuring system safety hazard assessments are presented at design and program reviews.

(5) Ensuring that all catastrophic and critical hazards are eliminated or adequately controlled prior to IOC, with supporting documentation.

(e) Ensure system safety requirements are addressed in all testing (reference (d)). Where normal testing is not sufficient to demonstrate safe operation, prepare and monitor special safety tests and evaluations.

(f) Develop procedures for the safe and environmentally acceptable use, stowage and disposal or demilitarization of any hazardous materials/equipment associated with the system.

(g) Furnish system safety hazard assessments to acquisition review boards and councils.

(h) Establish procedures to ensure timely follow-up to correct identified hazards, and document, with proper justification, management decisions to accept risks associated with identified hazards.

(i) Develop data required to identify and control hazardous materials and items, including the selection of the least hazardous alternative and provide safety and health requirements with the planned maintenance system cards (PMS), along with material safety data sheets (MSDS).

(j) Ensure that historical safety data (lessons learned) from previous system acquisitions are collected, documented and considered in designing systems or facilities.

(k) Apply system safety to in-house development, construction, production, modification and test programs. Assure government furnished equipment (GFE) specified in contracts is accompanied by appropriate hazard analyses.

(l) Keep CNO (OP-09F) and Commander, Naval Safety Center informed of the initiation of and schedule for all ACAT I and ACAT II programs including design reviews, inspections and System Safety Working Groups (SSWGs) and audits. Forward copies of system safety program documentation to CNO (OP-09F) and the Naval Safety Center.

(m) Review engineering changes, alterations, deviations, waivers, and modification proposals for impact on safety.

(n) Establish/develop system safety engineering criteria/techniques to meet mishap prevention goals, including necessary research. Use available safety enhancing technology.

(o) Maintain a permanent record of identified hazards (MIL-STD-882B) and closeout actions.

J. B. BUSEY
Vice Chief of Naval Operations

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